2003 FIRE WEATHER ANNUAL REPORT

WFO CHEYENNE WYOMING

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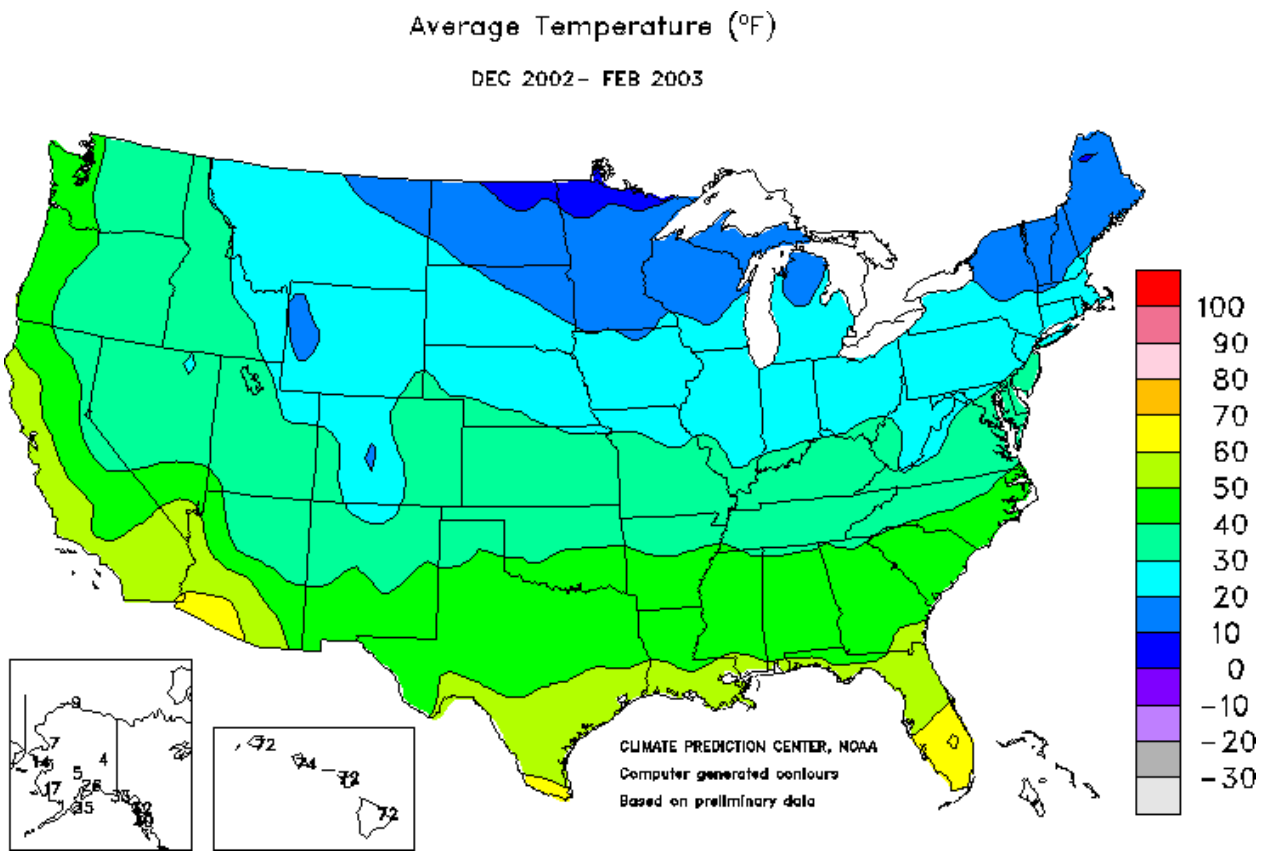
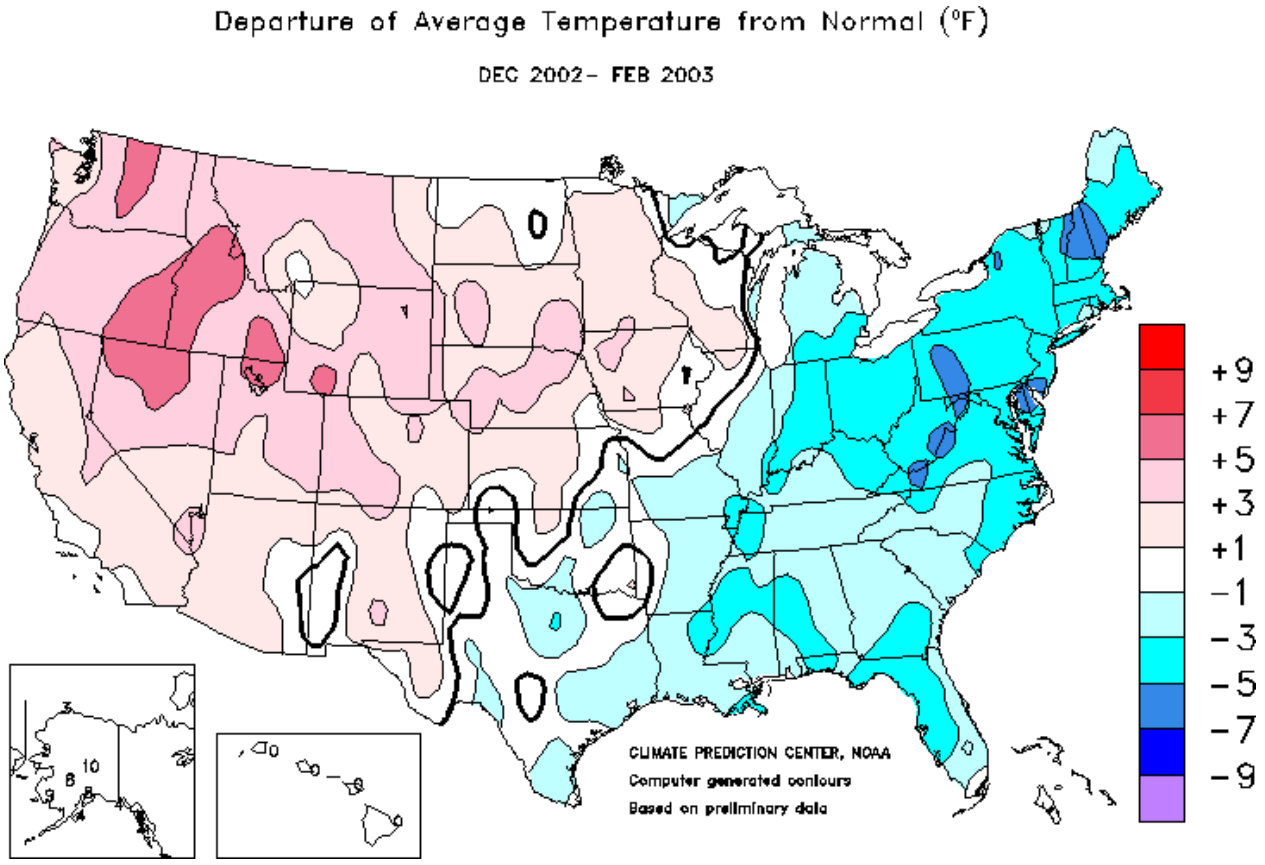
Introduction

Summaries of the weather from the months of December 2002 through November 2003 are given in the following sections. The terms Crop Moisture and Palmer Drought Severity Index are used often. These terms are defined in Appendix 1.

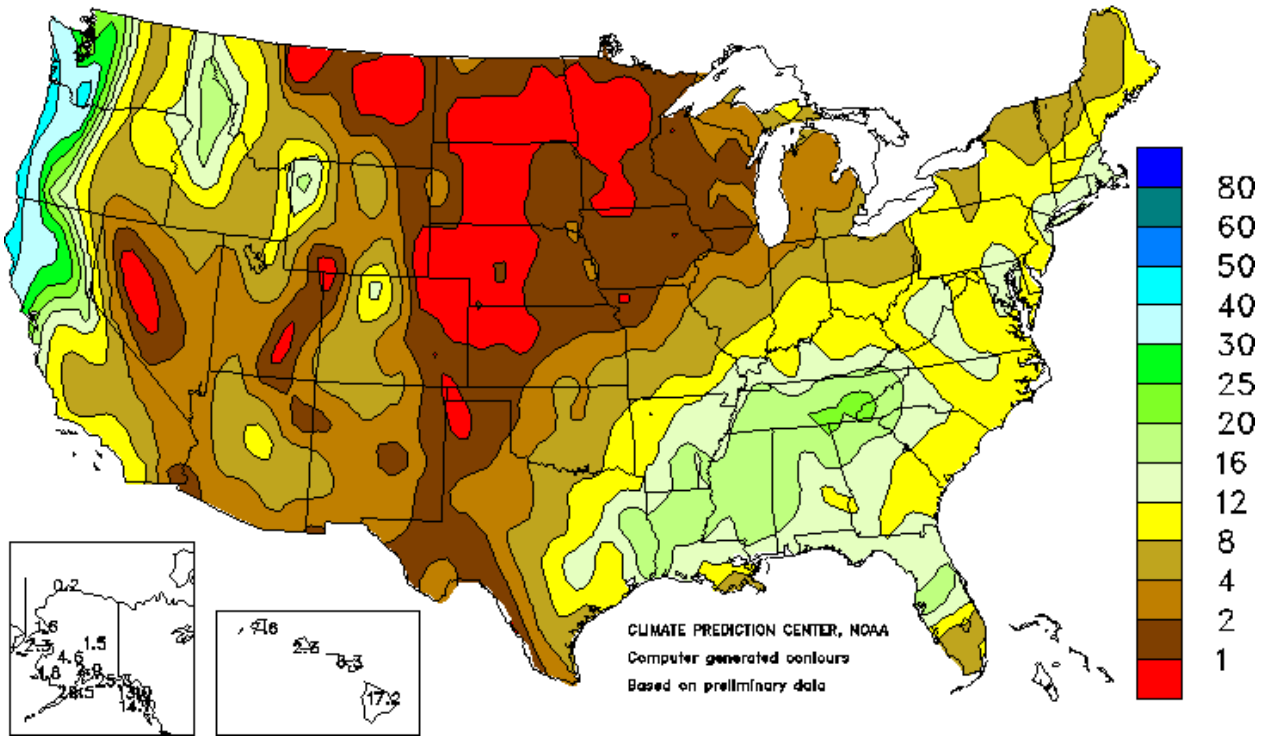
Section 1 – Winter 2001-2002 Weather Review




Departure of Average Temperature from Normal (°F)
DEC 2002 – FEB 2003
+9
+7
+5
+3
+1
–1
–3
–5
–7
–9
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

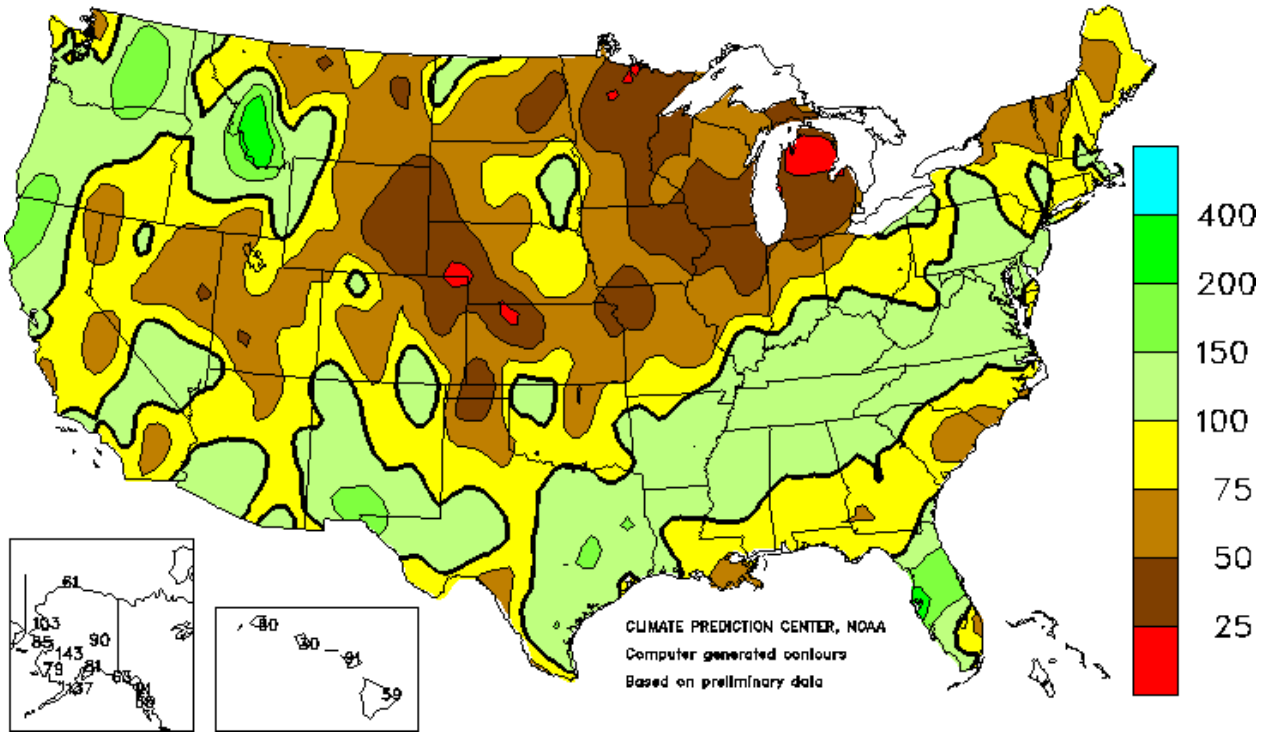
Total Precipitation (Inches)

DEC 2002– FEB 2003



Percent Of Normal Precipitation

DEC 2002– FEB 2003



December 2002 was warmer and drier than normal across Southeast Wyoming and the Nebraska Panhandle.

STATION (December 2002)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	32F	+5F	0.1 inches	-0.4 inches
Scottsbluff NE	29F	+2F	0.2 inches	-0.4 inches

Temperatures were much warmer than normal through January 2002 across Southeast Wyoming and the Nebraska Panhandle. Precipitation was below normal across the district.

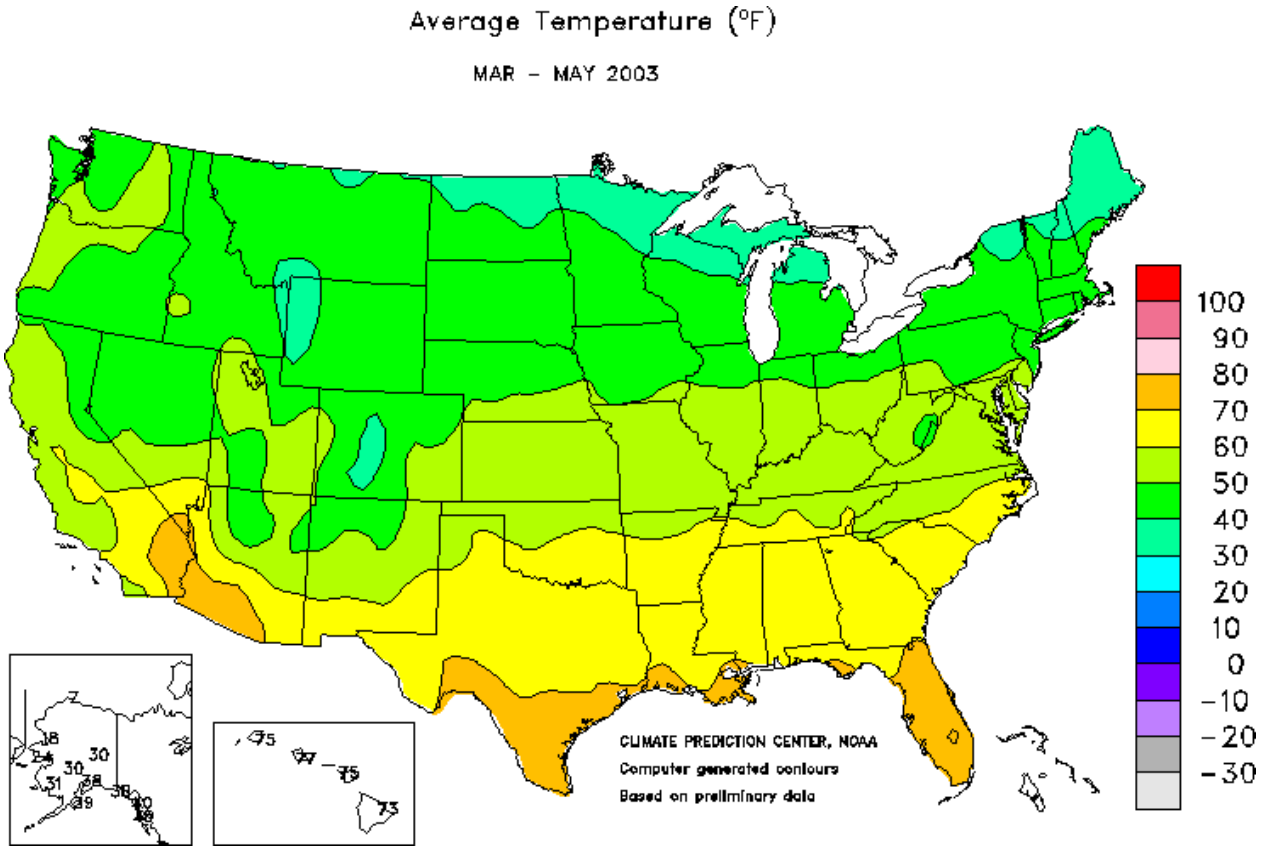
STATION (January 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	35F	+9F	0.1 inches	-0.4 inches
Scottsbluff NE	32F	+8F	0.1 inches	-0.4 inches

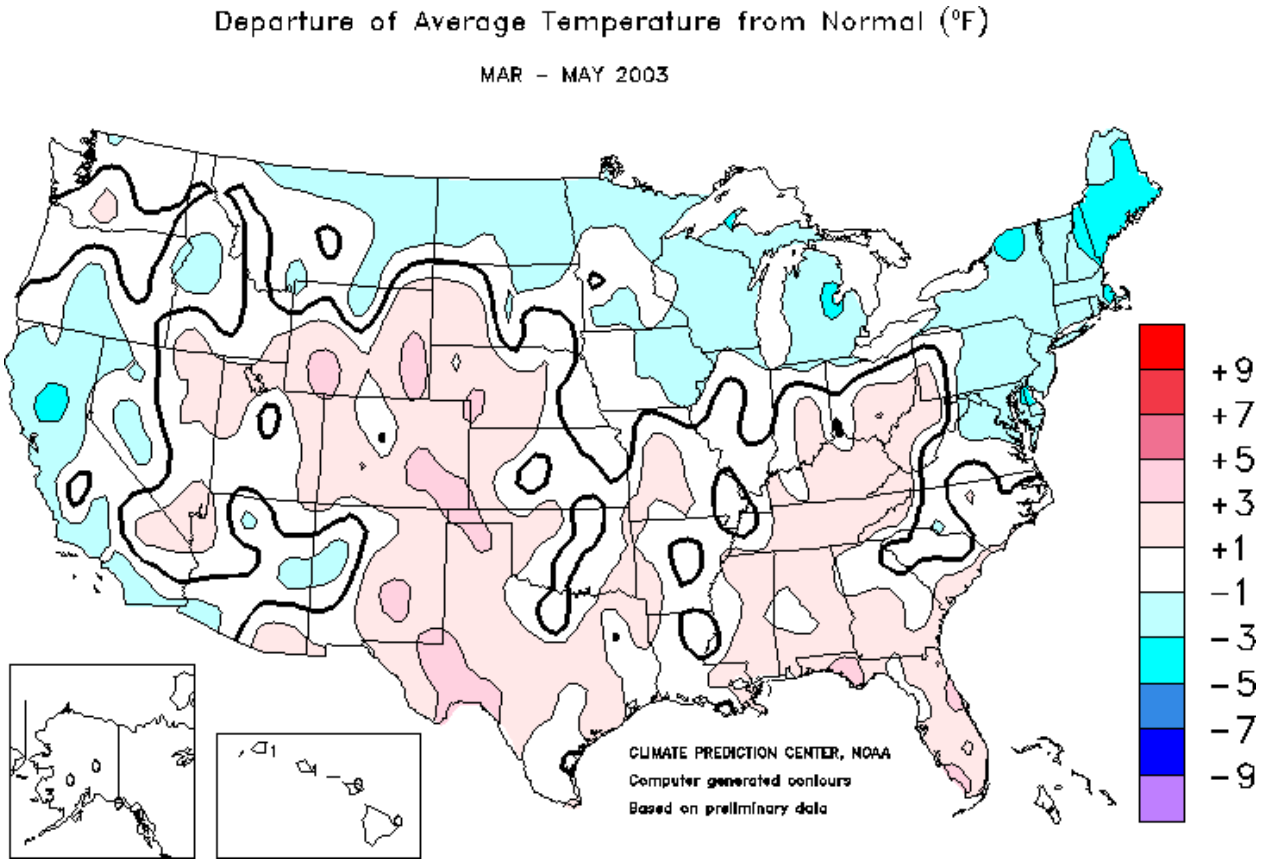
Temperatures were below normal across the district during February 2002. Precipitation was near normal.

STATION (February 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	25F	-4F	0.5 inches	0.0 inches
Scottsbluff NE	26F	-4F	0.7 inches	+0.2 inches

Overall, the winter of 2003 was warmer and drier than normal across Southeast Wyoming and the Nebraska Panhandle.

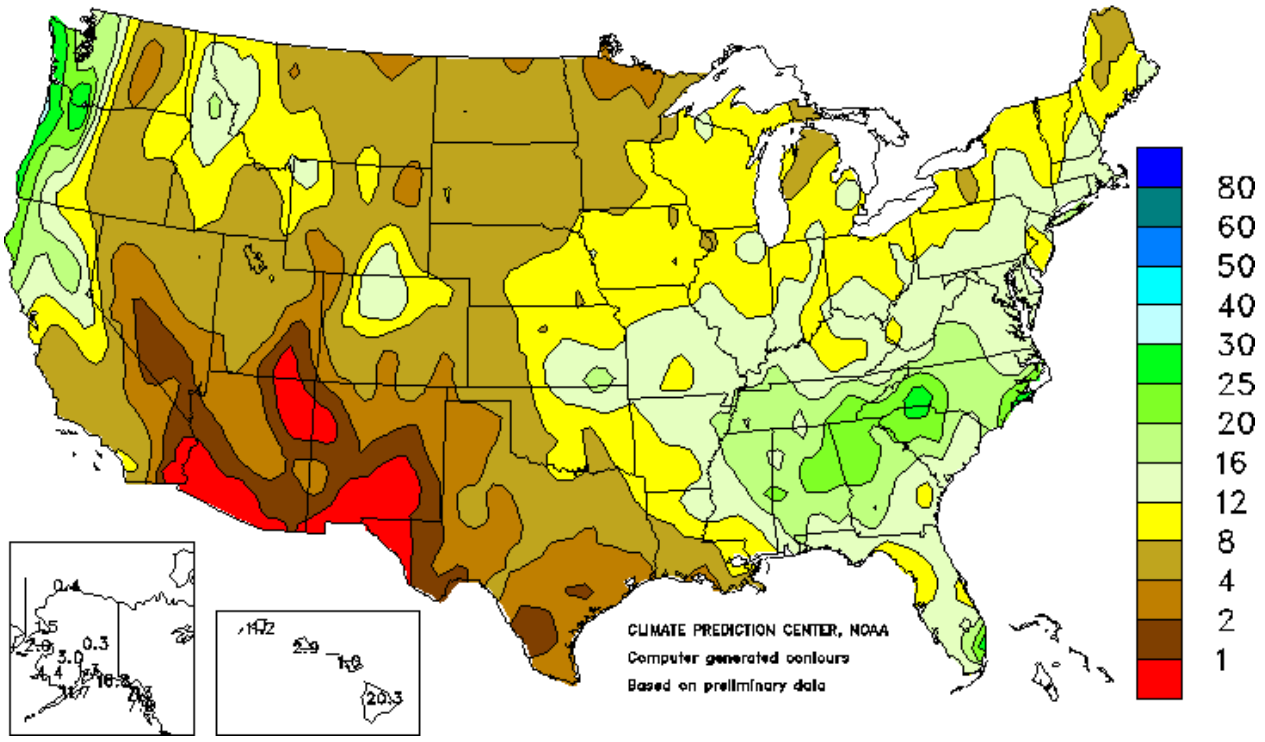
Section 2 – Spring 2003 Weather Review




Departure of Average Temperature from Normal (°F)
MAR – MAY 2003
+9
+7
+5
+3
+1
–1
–3
–5
–7
–9
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

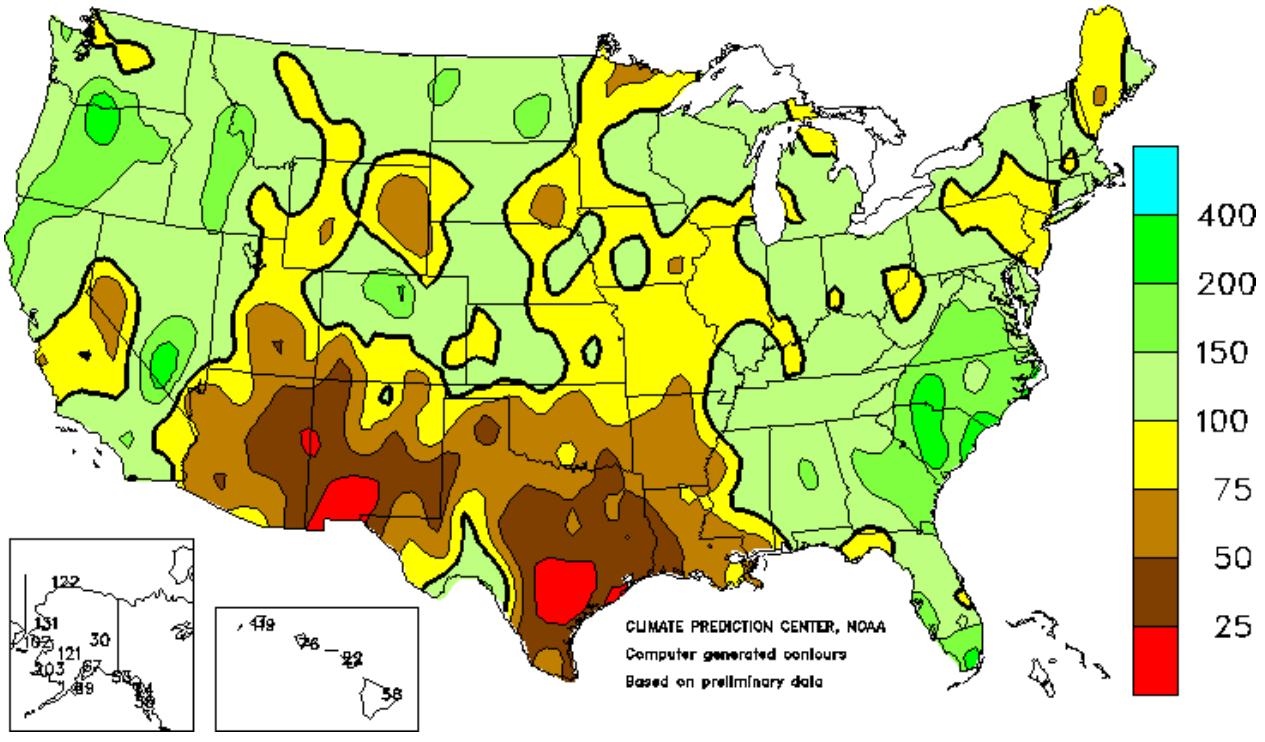
Total Precipitation (Inches)

MAR – MAY 2003



Percent Of Normal Precipitation

MAR – MAY 2003



Temperatures in March 2003 were above average across Southeast Wyoming and the Nebraska Panhandle. Precipitation was above average across the district.

STATION (March 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	38F	+3F	2.2 inches	+1.2 inches
Scottsbluff NE	39F	+2F	1.3 inches	+0.2 inches

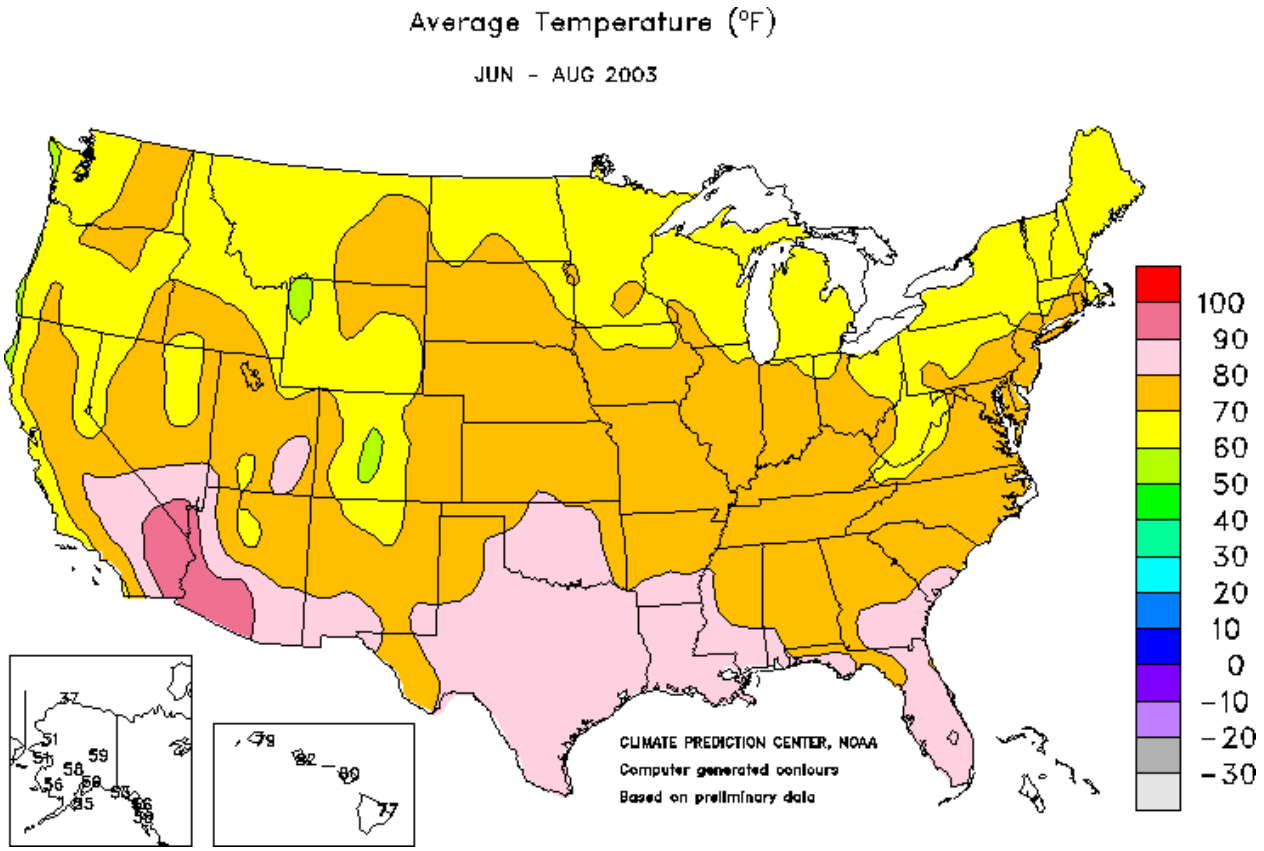
In April 2003, temperatures averaged above normal across Southeast Wyoming and the Nebraska Panhandle. Precipitation was above average across the Wyoming portion of the district, but was below normal across the Nebraska Panhandle.

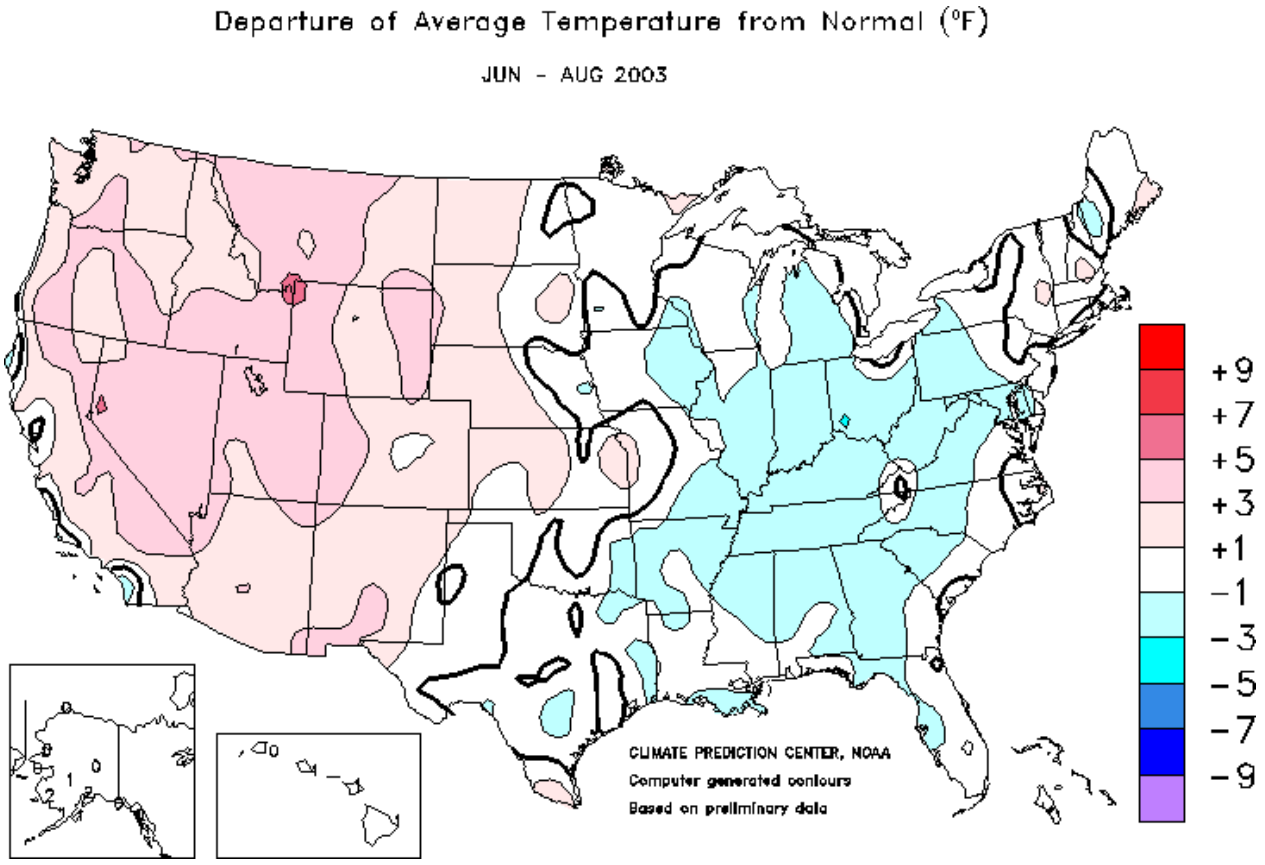
STATION (April 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	46F	+4F	2.7 inches	+1.2 inches
Scottsbluff NE	49F	+3F	1.4 inches	-0.4 inches

In May 2003, temperatures were above normal across the district with below normal precipitation. This helped set the stage for an above normal fire season.

STATION (May 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	54F	+2F	1.4 inches	-1.1 inches
Scottsbluff NE	58F	+1F	1.3 inches	-1.4 inches

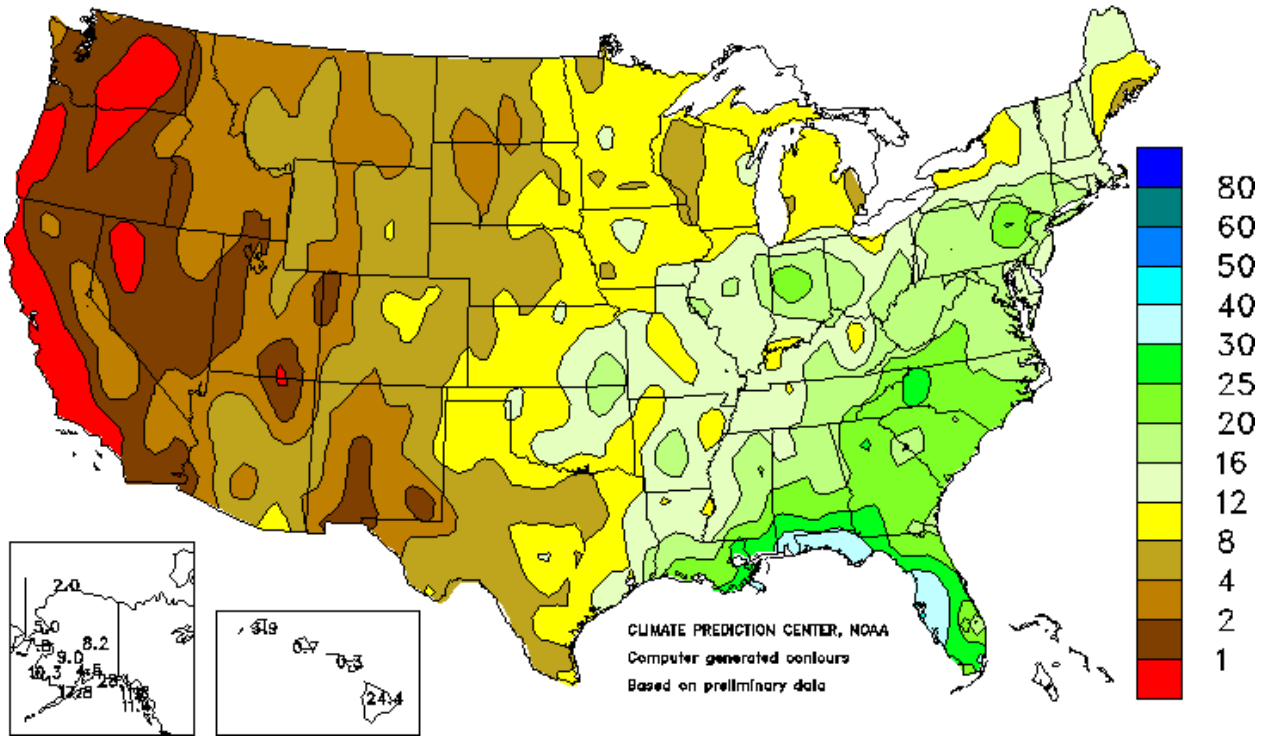
Section 3 – Summer 2003 Weather Review




Departure of Average Temperature from Normal (°F)
JUN - AUG 2003
+9
+7
+5
+3
+1
-1
-3
-5
-7
-9
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

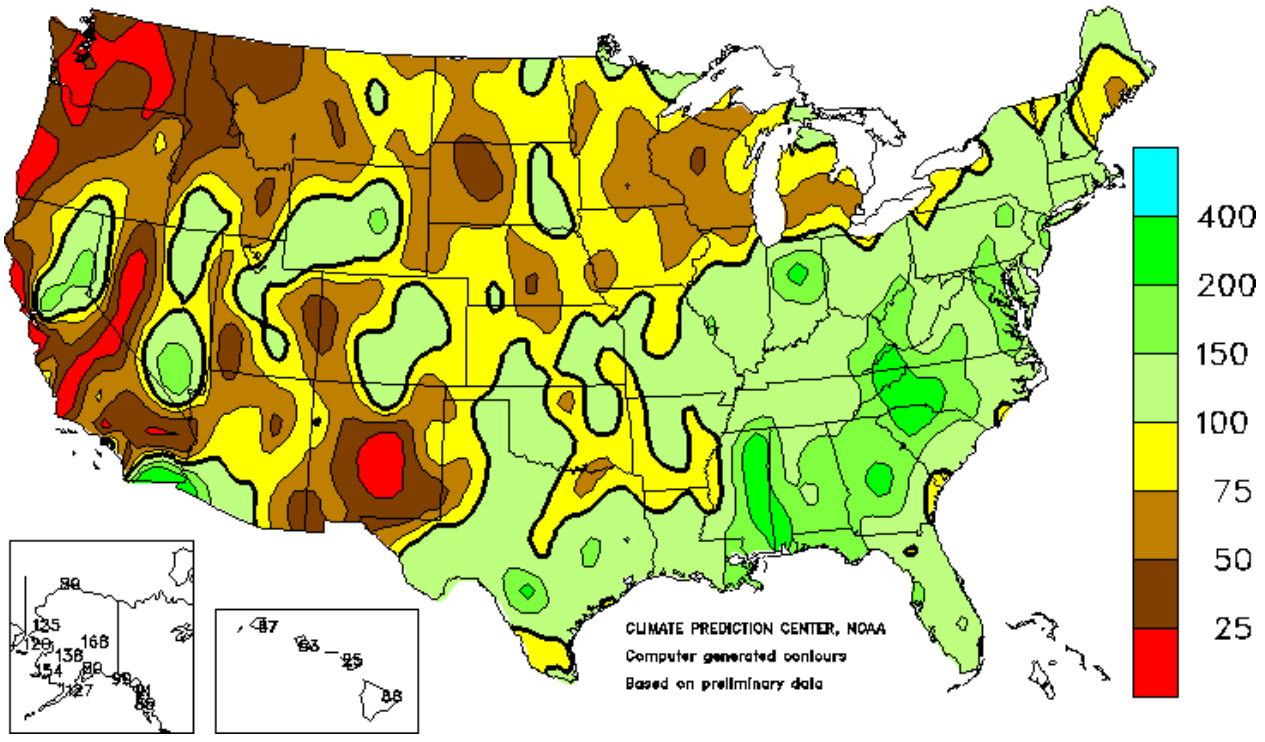
Total Precipitation (Inches)

JUN - AUG 2003



Percent Of Normal Precipitation

JUN - AUG 2003



Temperatures averaged below normal across the district during June 2003. Normal precipitation was experienced across Southeastern Wyoming; below normal precipitation was experienced in the Nebraska Panhandle.

STATION (June 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	58F	-3F	2.7 inches	+0.6 inches
Scottsbluff NE	64F	-3F	1.6 inches	-1.0 inches

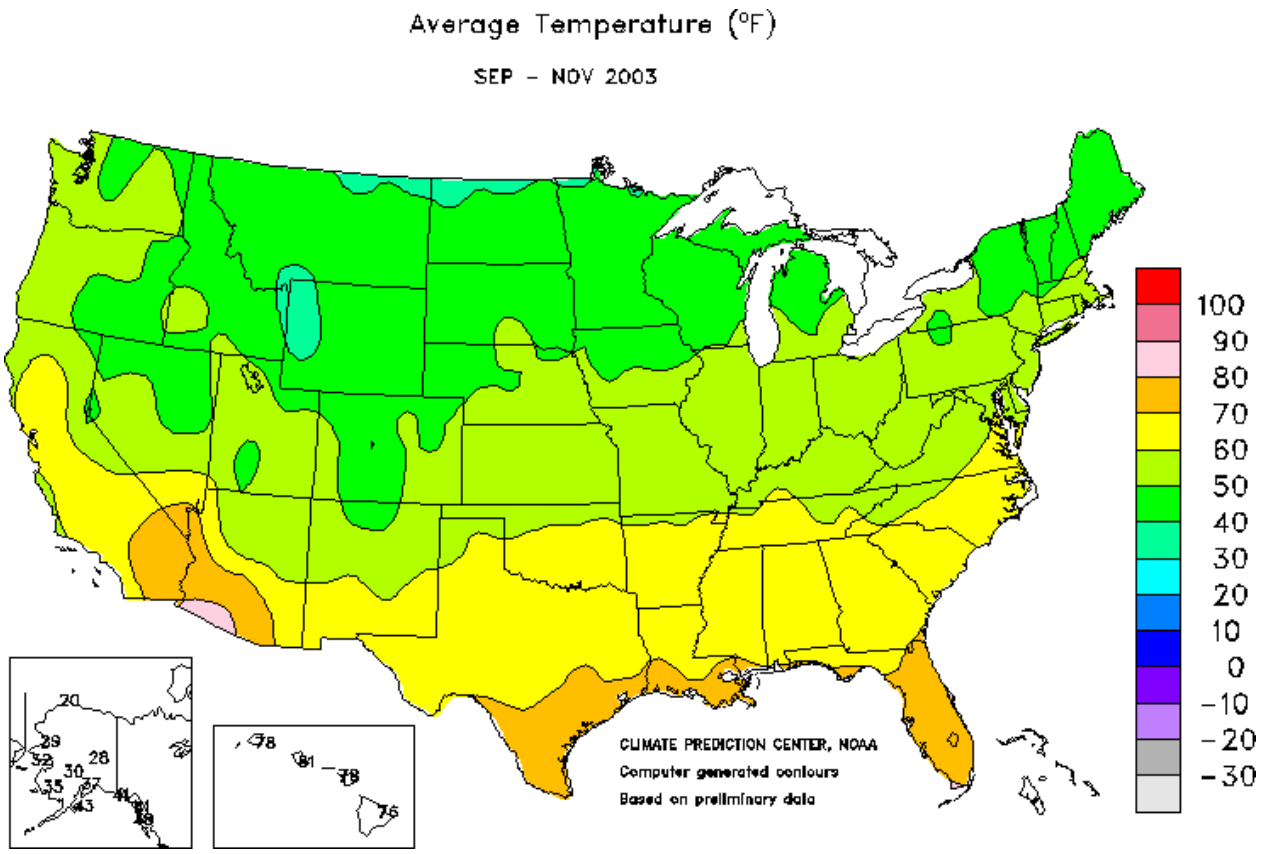
July 2003 temperatures averaged much above normal across the district. Precipitation was below normal across Southeast Wyoming and in the Nebraska Panhandle.

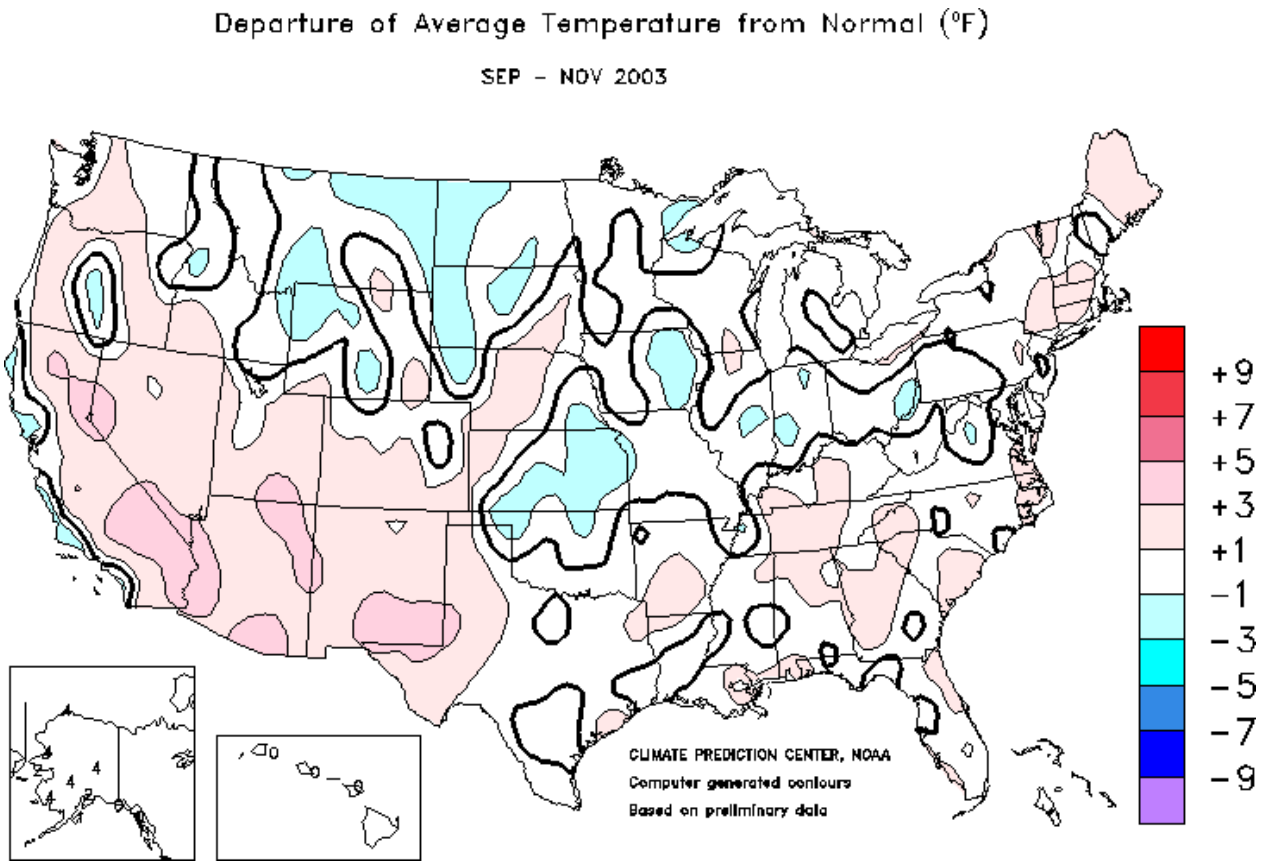
STATION (July 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	75F	+7F	0.4 inches	-1.8 inches
Scottsbluff NE	78F	+5F	0.5 inches	-1.7 inches

In August 2003, temperatures averaged much above normal for the district with precipitation below normal.

STATION (August 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	71F	+5F	0.8 inches	-1.0 inches
Scottsbluff NE	75F	+4F	0.6 inches	-0.6 inches

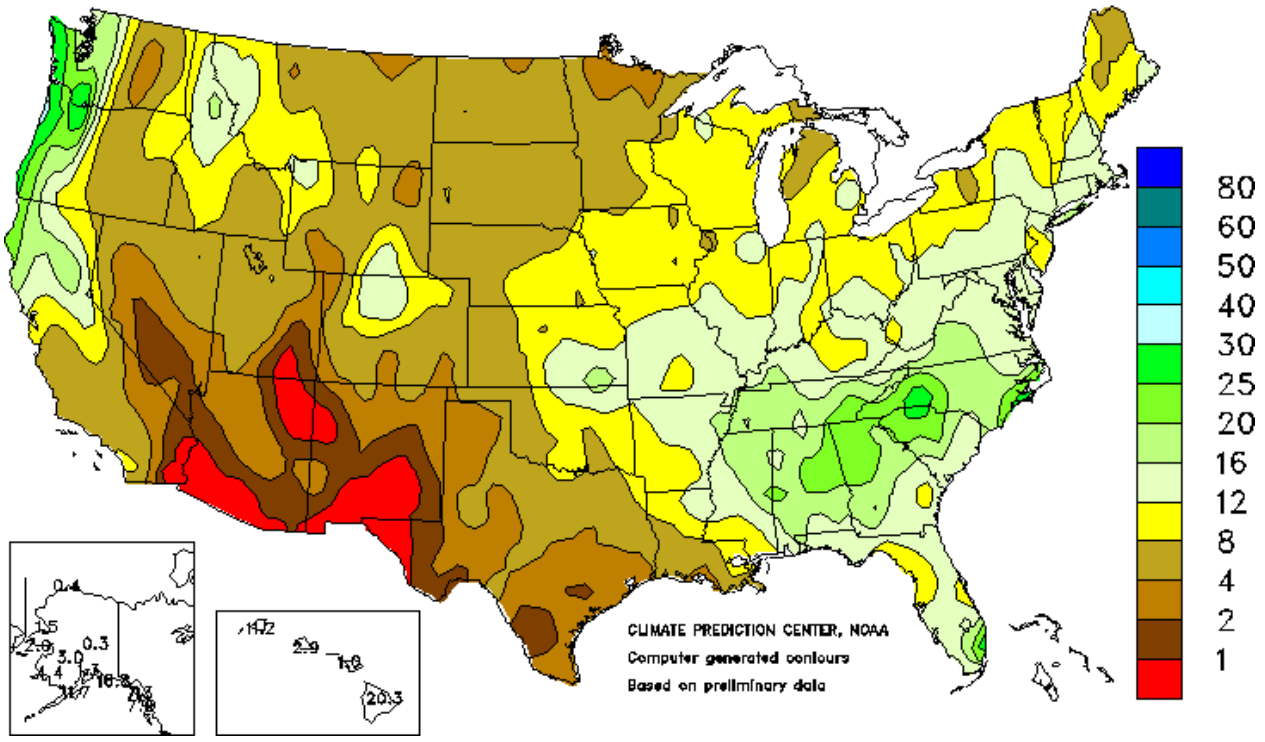
Section 4 – Autumn 2003 Weather Review




Departure of Average Temperature from Normal (°F)
SEP – NOV 2003
+9
+7
+5
+3
+1
-1
-3
-5
-7
-9
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

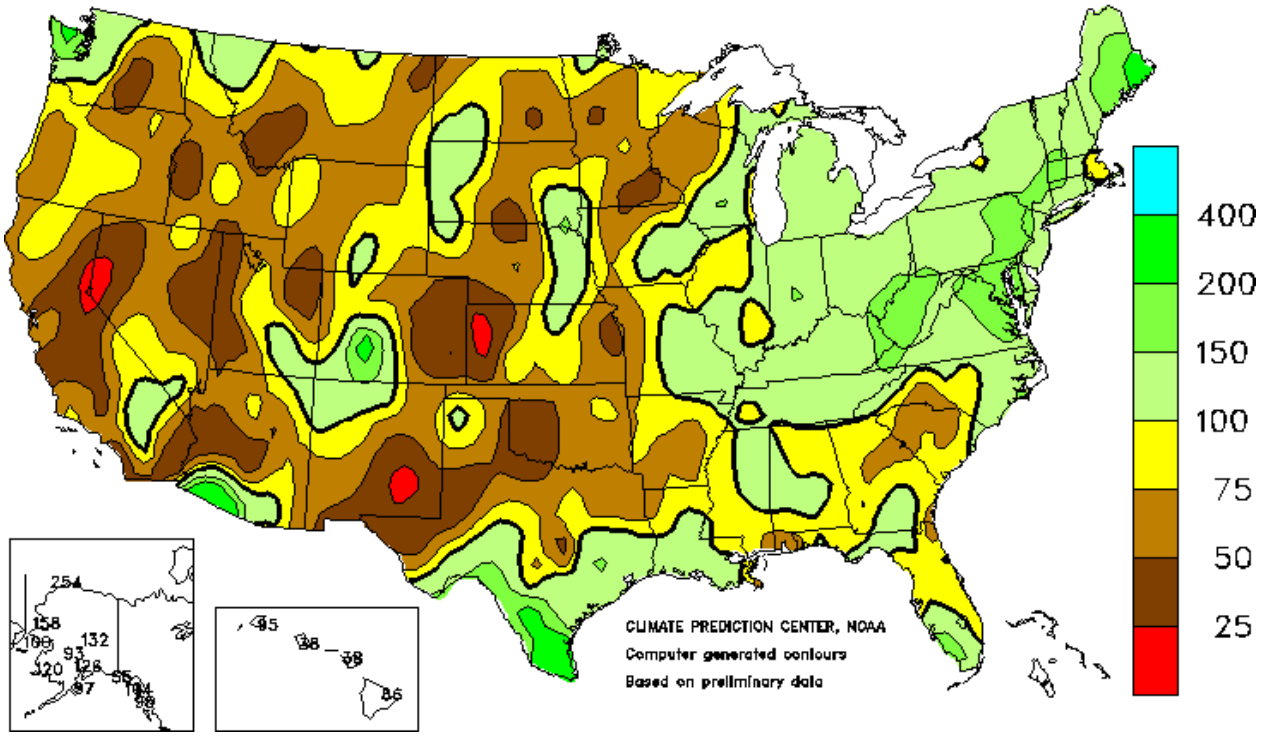
Total Precipitation (Inches)

MAR – MAY 2003



Percent Of Normal Precipitation

SEP – NOV 2003



In September 2003, temperatures were about normal across Southeast Wyoming and the Nebraska Panhandle with below normal precipitation.

STATION (September 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	56F	0F	1.2 inches	-0.2 inches
Scottsbluff NE	59F	-1F	1.0 inches	-0.3 inches

In October 2003, temperatures were well above normal across the district with precipitation below normal.

STATION (October 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	51F	+6F	0.2 inches	-0.5 inches
Scottsbluff NE	52F	+5F	0.3 inch	-0.7 inches

November 2003 had normal temperatures and below normal precipitation.

STATION (November 2003)	Average Temperature	Departure from normal	Precipitation	Departure from normal
Cheyenne WY	33F	0F	0.5 inches	-0.2 inches
Scottsbluff NE	34F	0F	0.7 inches	-0.1 inches

Section 5 – Fires During the 2003 Season

The table below gives a breakdown of the total number of fires and the acreage burned during the 2003 fire season (through December 27) in the Rocky Mountain Geographic Area. All statistics are estimations. These totals are prescribed fires plus wildfires.

Forest / Agency	Number of fires	Acres Burned
BLM	802	17,477
US National Forest Service	754	58,562
NPS	48	783
FWS	40	1,964
BIA	185	20,214
TOTALS	**1,829**	**99,000**

Section 6 – Spot Forecasts

The table below gives the number of spot forecasts requests in 2003 for each month for southeast Wyoming and the Nebraska panhandle. The breakdown of the requests by agency name is also given.

A total of 114 spot forecast requests were filled during 2003. See Appendix 2 for a graphical presentation of spot forecast requests for 2003.

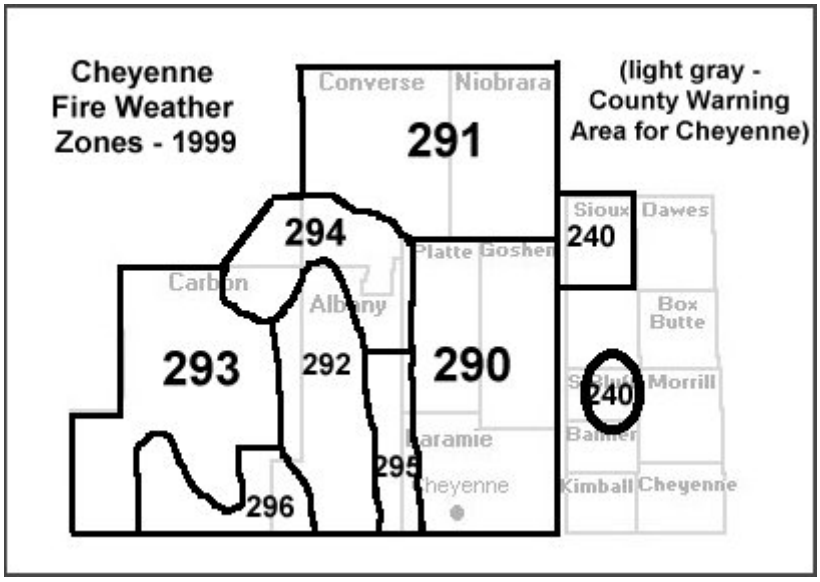
Month	USFS	BLM	FWS	NPS	Total
Jan	3	0	0	0	3
Feb	3	0	0	0	3
Mar	1	0	0	0	1
Apr	0	10	1	3	14
May	0	1	0	0	0
Jun	0	0	0	0	0
Jul	17	2	0	0	19
Aug	2	13	0	0	15
Sep	5	17	0	0	22
Oct	6	16	0	0	22
Nov	7	0	0	0	7
Dec	7	0	0	0	7
Total	**51**	**59**	**1**	**3**	**114**

Section 7 – Meteorological Support

The Incident Meteorologist at the National Weather Service Office in Cheyenne was dispatched to 1 wildfire for training purposes during the fire season of 2003.

Section 8 – Fire Weather Watches and Red Flag Warnings

During the 2003 fire season, the National Weather Service in Cheyenne issued 7 Red Flag Warning (RFW) and 0 Fire Weather Watches (FWW).



The following is a list of the locations and dates Fire Weather Watches and Red Flag Warnings:

Date	Product	Verified	Fire Weather Zones
July 13	Red Flag Warning	Yes	290 through 296

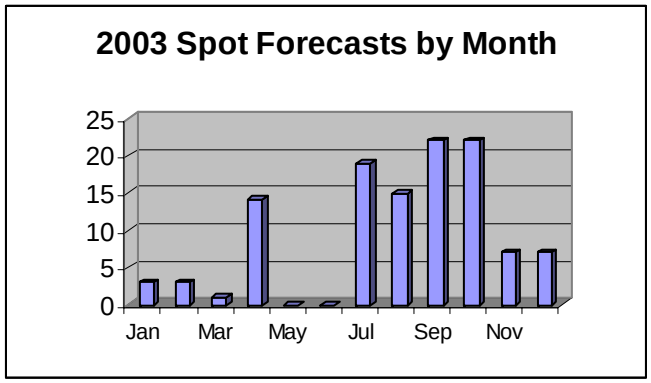
2003 Verification Statistics (definitions of terms given in Appendix 1)

Critical Skill Index:	0.88
Probability of Detection:	1.00
False Alarm Ratio:	0.14

Appendix 1 - Definitions

Crop Moisture	Short-term crop need versus available water in a 5 foot soil profile. This depicts short term, up to about 4 weeks, abnormal dryness or wetness affecting agriculture. Responds rapidly and can change considerably from week to week.
Palmer Drought Index	Depicts prolonged (months, years) abnormal dryness or wetness. Responds slowly and changes little from week to week, and reflects long term moisture runoff, recharge, deep percolation and evapotranspiration.
Critical Skill Index	The number of warned Red Flag events divided by the total number of Red Flag events and the number of unverified Red Flag Warning events
Probability of Detection	The number of warned Red Flag events divided by the total number of Red Flag events
False Alarm Ratio	The number of unverified Red Flag Warnings divided by the total number of Red Flag Warnings issued.

Appendix 2 – Graphical Presentation of 2003 Spot Forecast Requests



Number of Spot Forecast Requests